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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,056	01/08/2002	Jon Shaffer	108176/full	4998

7590 10/24/2002

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[REDACTED] EXAMINER

BARRY, CHESTER T

ART UNIT	PAPER NUMBER
1724	9

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/043,056	SHAFFER
	Examiner	Art Unit
	Chester T. Barry	1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 August 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 30-40 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-29 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.

- 4) Interview Summary (PTO-413) Paper No(s) _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: COPY OF SPEC. AS FILED

Applicants' election is noted. Insofar as no argument was presented traversing the requirement for restriction, the election is treated as if made without traverse. The requirement is made FINAL. **Applicant is requested to cancel the non-elected claims in response to this Office action.**

The specification is objected to for minor informalities: At page 4 at the line beginning with "5," "et al.." appears where "et al." would be correct. At page 5 at the line beginning with "Another example," ":" appears where no colon should be. Throughout the entire specification, one space improperly separates adjacent sentences within the same paragraph whereas setting off adjacent sentences with two spaces is conventional and proper. None of dextrose, citrate, yeast extract, whey extract, molybolic acid, vitamin, thiamin, riboflavin, niacin, folic acid, biotin, pantothenic acid, calcium, iron, phosphor[u]s,¹ iodine, magnesium, zinc, selenium, copper, molybdenum, chloride,² boron, nickel, silicon, tine, trace elements, and vanadium may be capitalized. These words must appear in lower case. In the last line of page 14, "i.e." must be corrected to "i.e.,". At page 15 at the line beginning with "(" "e.g." appears where "e.g.," should be. Near the middle of page 16, "K₂HP0₄" appears where "K₂HPO₄" should be and "Na₂HPO₄-H₂O" appears where "Na₂HPO₄-H₂O" should be. Elsewhere on page 16, "NaC1" appears where "NaCl" should be and "NH₄C1" appears where "NH₄Cl" should be. Elsewhere on page 16, "4H₂O" appears where "4H₂O" should be and "7H₂O"

¹ Phosphorus is an element. Phosphorous is an adjective referring to and oxidation state of phosphorus. Please correct accordingly.

appears where "7H₂O" should be. Elsewhere on page 16, "m1" appears where "m1" should be. At page 18, "24," must be replaced by "24;". Correction is required.

The specification is objected to under 35 USC 112, first paragraph, description, for failure to adequately describe the claimed invention. At page 13, in the line beginning with "nutrient," the specification refers to a number of cycles per day, generally "4, 8 to 6, preferably 6 to 12." Insofar as it is conventional in patent applications to describe a broad range followed by a preferred narrower range of numeric values, "8 to 6, preferably 6 to 12" cannot be understood. Replacement of "8 to 6" with "8 to 16" would be the impermissible insertion of new matter absent support elsewhere in the specification for this limitation. Applicant has support for 4, 6 to 8, and 6 to 12 cycles per day. At page 17, it is unclear what effect the use of "consist of" and "may consisting essentially of" has on the scope of the invention disclosure.

The specification is objected to under 37 CFR 1.52(b) for want of satisfaction of the margins requirements. Note on the attached copy³ of the application as filed the obscuring of portions of the text of the application (including claims) by dint of the PTO's printing of the application serial number and filing date on the portion thereof extending within one inch of the left edge of the paper. Should this application issue, printing errors may result. Such errors would likely not be the fault of the PTO, but rather due to

² Chloride refers to an ionic form of the element chlorine. It is unclear – given the list of elements rather than ions found in the vicinity of applicants' reference to "[c]hloride" at page 11, for example – whether the element chlorine or the ion chloride was intended. Correction is required.

³ Double-sided to conserve national woody-fiber resources.

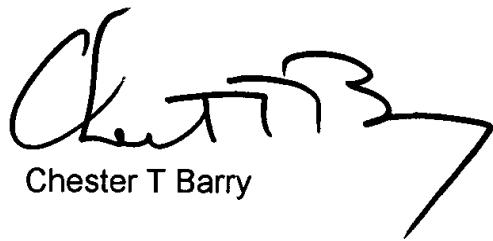
applicants having not complied with the cited rule designed to facilitate rather than render more difficult comprehension of the application by the examiner and printing of the same. A substitute specification (including claims and abstract) is required even if no allowable subject matter is indicated.

Applicants' due care and attention is directed also to 37 CFR 1.126 which governs *inter alia* the proper numbering of claims: Two claims numbered "31" appear in the application as filed. Per 37 CFR 1.126, the second-appearing claim "31" was renumbered as 32. Per 37 CFR 1.126, claim "32" was renumbered as 34. See page 31. No amendments have been made to the body of any claim. It behooves applicant to review and amend as necessary any dependent claim which may refer back to the "wrong" claim.

Claims 1 – 29 are rejected under § 112, first paragraph, description, § 112, second paragraph for failing to particularly point out and distinctly claim the subject matter for which patent protection is sought, and under §112, sixth paragraph. Claims 1 and 16 recite "nutrient pumping means for pumping." When claims 1 and 16 are read in light of the doctrine of claim differentiation and Claims 7 and 22, respectively, it is clear that applicants intend for the recited "nutrient pumping means for pumping" to cover mechanisms for delivering inorganic / organic powders from a hopper into the bioreactor vessel. Applicant has not **described** structure for performing this "powder pumping" function. Applicant has not satisfied §112, 6th, by providing a recital of

structure capable of performing the pumping function in the case of a powder inorganic / organic nutrient mixture. Accordingly, the skilled artisan is not put on fair notice of the scope of the claims. The claims are not rejected for lack of enablement with respect to powder dispensing mechanisms, as such are well known.

Claims 1 – 29 are allowable over the art of record for want of description of refill-on-demand water pumping means in combination with the means for pumping a mixture of inorganic and organic nutrients. USP 6335191 is cited for interest, especially for delivery of active bacteria to a grease trap point of use and for addition of a solid mixture of nutrients to the bioreactor.

A handwritten signature in black ink, appearing to read "Chester T Barry".

Chester T Barry

703-306-5921

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